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### NOTICE OF ALLOWANCE AND FEE(S) DUE

7590 02/04/2010

Susan M. Donahue Rockwell Automation, 704-P,IP Department 1201 South 2nd Street Milwaukee, WI 53204

EXAMINER			
TRUONG, LAN DAI T			
ART UNIT	PAPER NUMBER		

2452 DATE MAILED: 02/04/2010

APPLICATION NO. FILING DATE		FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092.323	03/06/2002	Steven M. Zink	02SW049	9035

TITLE OF INVENTION: SYSTEM AND METHODOLOGY PROVIDING OPTIMIZED DATA EXCHANGE WITH INDUSTRIAL CONTROLLER

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$0	\$0	\$1510	05/04/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

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II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

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appropriate. All further correspondence including the Patent, advance indicated unless corrected below or directed otherwise in Block 1, b maintenance fee notifications.  CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)  7590 02/04/2010  Susan M. Donahue  Rockwell Automation, 704-P,IP Department 1201 South 2nd Street			Not Fee pap	te: A certificate of ma e(s) Transmittal. This c ers. Each additional pa	iling can only be used fo	r domestic mailings of the or any other accompanying nt or formal drawing, must
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Milwaukee, WI	53204					(Depositor's name)
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			L			(Date)
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nonprovisional	NO	\$1510	\$0	\$0	\$1510	05/04/2010
EXAM	INER	ART UNIT	CLASS-SUBCLASS	]		
TRUONG, I	LAN DAI T	2452	709-203000	_		
<ol> <li>Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).</li> <li>Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.</li> <li>"Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Custome Number is required.</li> </ol>			2. For printing on the p (1) the names of up to or agents OR, alternati (2) the name of a sing registered attorney or 2 registered patent atto listed, no name will be	o 3 registered patent at vely, le firm (having as a ma agent) and the names or orneys or agents. If no	ember a 2 of up to	
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Please check the appropr	iate assignee category or	categories (will not be pr	rinted on the patent):	Individual ☐ Corpo	oration or other private gro	oup entity Government
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**	s SMALL ENTITY statu	is. See 37 CFR 1.27.			ENTITY status. See 37 Cl	FR 1.27(g)(2).  The assignee or other party in
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75	90 02/04/2010		EXAM	INER
Susan M. Donahı	ie	TRUONG, I	LAN DAI T	
Rockwell Automation, 704-P,IP Department			ART UNIT	PAPER NUMBER
1201 South 2nd Street Milwaukee, WI 53204			2452 DATE MAILED: 02/04/201	0

### Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 622 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 622 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

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	Application No.	Applicant(s)	
Mada at Alla at Pd	10/092,323	ZINK ET AL.	
Notice of Allowability	Examiner	Art Unit	
	LAN-DAI Thi TRUONG	2452	
The MAILING DATE of this communication app All claims being allowable, PROSECUTION ON THE MERITS IS herewith (or previously mailed), a Notice of Allowance (PTOL-85 NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT R of the Office or upon petition by the applicant. See 37 CFR 1.31	(OR REMAINS) CLOSED ( ) or other appropriate comm RIGHTS. This application is	n this application. If not included unication will be mailed in due cour	rse. <b>THIS</b>
1. $\boxtimes$ This communication is responsive to <u>amendment filed on</u>	<u>11/06/2009</u> .		
2. X The allowed claim(s) is/are <u>1-7, 10-19, 21, 24-28, 31, 33-3</u>	<u>39</u> .		
<ul> <li>3. ☐ Acknowledgment is made of a claim for foreign priority u</li> <li>a) ☐ All b) ☐ Some* c) ☐ None of the:</li> <li>1. ☐ Certified copies of the priority documents have</li> <li>2. ☐ Certified copies of the priority documents have</li> </ul>	e been received. e been received in Applicati	on No	
<ol><li>Copies of the certified copies of the priority do</li></ol>	ocuments have been receive	ed in this national stage application	from the
International Bureau (PCT Rule 17.2(a)).			
* Certified copies not received:			
Applicant has THREE MONTHS FROM THE "MAILING DATE" noted below. Failure to timely comply will result in ABANDON'THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.		e a reply complying with the require	ments
4. A SUBSTITUTE OATH OR DECLARATION must be subn INFORMAL PATENT APPLICATION (PTO-152) which giv			CE OF
5. CORRECTED DRAWINGS ( as "replacement sheets") mu	st be submitted.		
(a) ☐ including changes required by the Notice of Draftsper	son's Patent Drawing Revie	w ( PTO-948) attached	
1) ☐ hereto or 2) ☐ to Paper No./Mail Date			
<ul><li>(b) ☐ including changes required by the attached Examiner Paper No./Mail Date</li></ul>	's Amendment / Comment o	r in the Office action of	
Identifying indicia such as the application number (see 37 CFR each sheet. Replacement sheet(s) should be labeled as such in			k) of
<ol> <li>DEPOSIT OF and/or INFORMATION about the depo attached Examiner's comment regarding REQUIREMENT</li> </ol>			the
Attachment(s)	5 □ Nation of the	of annual Datast Annual action	
1. Notice of References Cited (PTO-892)		nformal Patent Application	
<ol> <li>Notice of Draftperson's Patent Drawing Review (PTO-948)</li> <li>Information Disclosure Statements (PTO/SB/08),</li> </ol>	Paper No	Summary (PTO-413), /Mail Date s Amendment/Comment	
Paper No./Mail Date			
4. Examiner's Comment Regarding Requirement for Deposit of Biological Material		s Statement of Reasons for Allowan	ıce
	9.  Other		
/Ldt/	/THU NGUYE		
Patent Examiner, Art Unit 2452	Supervisory Pa	atent Examiner, Art Unit 2452	

Art Unit: 2452

### **DETAILED ACTION**

1. This action is response to communications: application, filed on 03/06/2002; Amendments filed on 11/06/2009; claims 1-7, 10-19, 21, 24-28, 31 and 33-39 are pending; claims 8-9, 20, 22-23, 29-30 and 32 are canceled; claims 1, 5-6, 13-17, 21, 31, 33 and 36 are amended.

#### **EXAMINER'S AMENDMENT**

- Examiner's amendments to the records appear below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR
   To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
- 3. Authorization for this examiner's amendments was given in a telephone interview with Attorney Nilesh S. Amin Reg. No. 58,407 on January 21, 2010.
  - 4. The claims have been amended as follows:

Claim 1 (Currently Amended) An industrial control system, comprising:

- a processor;
- a computer readable storage medium operationally coupled to the processor and storing computer executable instructions, the computer executable instructions, when executed by the processor, implement components comprising:

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a primary aggregation component associated with an industrial controller, the primary aggregation component is created, via the processor, and defined in response to a query received

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from an entity remote to the industrial controller and is installed on the industrial controller, the primary aggregation component aggregates a plurality of selected data items stored in the industrial controller into an aggregated subset of data items;

a communications component associated with the remote entity, the communications component reads the aggregated subset of data items via a singular communications packet across a network, the communications component causes addition of at least one secondary aggregation component at the industrial controller in response to increased data demands, wherein the communication component causes removal of the at least one secondary aggregation components in response to decreased data demands; and

an update component associated with the remote entity, the update component receives handle information from the industrial controller across the network relating to the plurality of selected data items, the update component employs the handle information to generate an update data packet request that is transmitted across the network to the industrial controller to update one or more data items of the aggregated subset of data items in the industrial controller, wherein the handle information provides a fixed length reference pointer to a memory address in the industrial controller for each of the variable length tag references of the plurality of selected data items, wherein the update data packet request employs the fixed length reference pointer in place of a variable length tag reference for each of the one or more data items of the aggregated subset of data items that are to be updated.

Claim 21 (Currently Amended):

A method to facilitate data communications with an industrial controller, comprising: employing a processor executing computer executable instructions stored on a computer readable storage medium to implement the following acts:

requesting tag information from an <u>industrial</u> controller across an industrial control network for a plurality of selected data items in the controller;

building an aggregation object from the tag information provided by the <u>industrial</u> controller;

installing the aggregation object on the industrial controller;

installing at least one secondary aggregation component on the <u>industrial</u> controller upon increased data demands; <u>wherein the installing caused by a communication component</u> associated with a remote entity;

removing the at least one secondary aggregation components upon decreased data demands; wherein the removing caused by the communication component associated with the remote entity:

updating the aggregation object data on the industrial controller;

receiving by the communication component associated with the remote entity data from the aggregation object that has been updated by the <u>industrial</u> controller via a singular communication packet;

receiving by an update component associated with the remote entity handle information from the industrial controller relating to the plurality of selected data items, wherein the handle

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information provides a fixed length reference pointer to a memory address in the <u>industrial</u> controller for each <u>of variable length tag references</u> of the plurality of selected data items; and

employing by the update component associate with the remote entity only the handle information to generate an update data packet that is transmitted across the network to the industrial controller to update the plurality of selected data items in the industrial controller, wherein the update data packet employs the fixed length pointer in place of a variable length tag reference for each of the plurality of selected data items that are to be updated.

31. (Currently Amended) A system to facilitate data communications with an industrial controller, comprising:

a processor;

a computer readable storage medium storing computer executable instructions, the computer executable instructions, when executed by the processor, implement components comprising:

means for requesting, by the processor, tag identifiers from a <u>industrial</u> controller across a communications network, wherein the tag identifiers are associated with a plurality of selected data items in the <u>industrial</u> controller;

means for constructing an aggregation object from the tag identifiers requested from the industrial controller;

means for installing the aggregation object on the <u>industrial</u> controller, wherein the means for installing installs at least one secondary aggregation component on the controller upon increased data demands and removes the at least one secondary aggregation components upon

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decreased data demands, wherein the installing and removing are caused by a communication component associated with a remote entity;

means for refreshing by the industrial controller the aggregation object on the industrial controller;

means for transmitting by the industrial controller by data across the communications network from the optimized data packet that has been refreshed by the industrial controller; and means for updating the industrial controller via employment of handle information by an update component associated with a remote entity to generate an update data packet that is transmitted across the network to the industrial controller to update the plurality of selected data items in the industrial controller, wherein the handle information provides a fixed length reference pointer to a memory address in the industrial controller for each of variable length tag references for each of the plurality of selected data items that are to be updated, wherein the update data packet employs the fixed length reference pointer in place of the tag identifier as variable length tag reference for each of the plurality of selected data items that are to be

- 33. (Currently Amended) An industrial controller, comprising:
- a processor;

updated.

a computer readable storage medium storing computer executable instructions, the computer executable instructions, when executed by the processor, implement components comprising:

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a first component that processes information received from a remote entity across a network;

a primary aggregation component that aggregates a plurality of selected data items into an aggregated subset of data items, the primary aggregation component defined and installed at the industrial controller by an entity remote from the industrial controller;

a communications component associated with the entity remote from the controller, the communications component reads the subset of data items via a singular communications packet across the network, the communications component causes addition of at least one secondary aggregation component at the industrial controller upon increased data demands, wherein the communication component causes removal of the at least one secondary aggregation components upon decreased data demands; and

a update component associated with the entity remote from the industrial controller, the update component receives handle information from the industrial controller relating to the selected data items and employs the handle information to generate an update data packet request that is transmitted across the network to the industrial controller to update the plurality of data items of the aggregated subset of data items in the industrial controller, wherein the handle information provides a fixed length reference pointer to a memory address in the controller in place of a variable length tag reference for each of the plurality of selected data items that are to be updated, wherein the update data packet employs the fixed length reference pointer in place of a variable length tag reference for the plurality of selected data items of the aggregated subset of data items that are to be updated.

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### Reasons for allowance

5. With respect to claims 1, 21, 31 and 33, the prior arts of record, singly or in combination fails to teach the features of claim(s) limitations thereof. Specially, inter alia, it fails to teach an industrial control system, comprising: a primary aggregation component associated with an industrial controller, the primary aggregation component is created, via the processor, and defined in response to a query received from an entity remote to the industrial controller and is installed on the industrial controller, the primary aggregation component aggregates a plurality of selected data items stored in the industrial controller into an aggregated subset of data items; a communications component associated with the remote entity, the communications component reads the aggregated subset of data items via a singular communications packet across a network, the communications component causes addition of at least one secondary aggregation component at the industrial controller in response to increased data demands, wherein the communication component causes removal of the at least one secondary aggregation components in response to decreased data demands; and an update component associated with the remote entity, the update component receives handle information from the industrial controller across the network relating to the plurality of selected data items, the update component employs the handle information to generate an update data packet request that is transmitted across the network to the industrial controller to update one or more data items of the aggregated subset of data items in the industrial controller, wherein the handle information provides a fixed length reference pointer to a memory address in the industrial controller for each of variable length tag references of the plurality of selected data items, wherein the update data packet request employs the fixed length

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reference pointer in place of a variable length tag reference for each of the one or more data items of the aggregated subset of data items that are to be updated.

Claims 2-7, 10-19, 24-28 and 34-39 further limit the allowed claims, therefore they are also allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

# **Conclusions**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAN-DAI Thi TRUONG whose telephone number is (571)272-7959. The examiner can normally be reached on Monday- Friday from 8:30am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thu Nguyen can be reached on 571-272-6967. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ldt.

01/28/2010.

/THU NGUYEN/

Supervisory Patent Examiner, Art Unit 2452